Otherwise, during a stage S274 of flowchart 260, scale factor module 161 determines if operating temperature signal OT_{S2} (or alternatively operating temperature signal OT_{S1}) is less than a temperature T4 (e.g., +35 C) as listed in scale factor curve 162. If so, during stage S276 of flowchart 260, scale factor module 161 generates scale factor signal SF_{S1} equating a computation of an interpolation equation illustrated in stage S276, which is a function of scale factor SF3, a scale factor SF4, temperature T3, and temperature T4 as listed in scale factor curve 162.

Otherwise, during a stage S278 of flowchart 260, scale factor module 161 determines if operating temperature signal OT_{S2} (or alternatively operating temperature signal OT_{S1}) is less than a temperature T5 (e.g., +60 C) as listed in scale factor curve 162. If so, during stage S280 of flowchart 260, scale factor module 161 generates scale factor signal SF_{S1} equating a computation of an interpolation equation illustrated in stage S280, which is a function of scale factor SF4, a scale factor SF5, temperature T4, and temperature T5 as listed in scale factor curve 162. Otherwise, during a stage S282 of flowchart 260, scale factor module 161 generates scale factor signal SF_{S1} equating scale factor SF5 as listed in scale factor curve 162.

Referring again to FIG. 6A, temperature compensation module 160 further includes a multiplier 163 for providing operating current signal I_{OS2} as a product of operating current signal I_{OS1} and scale factor signal SF_{S1}. MR damper 10 has a defined operating current range (e.g., 0 to 5 amperes) relating to the associated design of coil 15 (FIG. 1) and a desired range of the damping force. Accordingly, operating current signal I_{OS2}, having been computed as the product of operating current I_{OS1} and scale factor signal SF_{S1} is then compared against the pre-defined upper and lower operating currents of the MR damper 10. If I_{OS2} is less than a lower operating limit (e.g., 0 amps), I_{OS2} is set equal to the lower operating limit. Otherwise, if I_{OS2} is greater than an upper operating limit (e.g., 5 amps), I_{OS2} is set equal to the upper operating limit. The need for these steps would be appreciated by those having ordinary skill in the art.

FIG. 7 illustrates a temperature compensation module 360 as one embodiment of temperature compensation module 60. Temperature compensation module 360 includes a compensation curve determination module 370 for providing scale factor data 371 ("SFD 371") having computed scale factors SF1-SF5 and offset data 372 ("OSD 372") having computed offset values OV1-OV5 in response to a reception of operating temperature signal OT_{S2} (or alternatively operating temperature signal OT_{S1}). One embodiment of a compensation data method for computing the scale factors SF1-SF5 included within SFD 371 and computing the offset values OV1-OV5 includes within OSD 372 will be subsequently described herein in connection with FIG. 8B.

Referring still to FIG. 7, temperature compensation module 360 further includes a compensation parameter determination module 380 for providing a scale factor signal SF_{S2} and an offset value signal OV_S in response to a reception of SFD 371, OSD 372, and a relative velocity signal RV_S that is indicative of a velocity of MR damper 10 relative to one or more fixed point(s). When MR damper 10 is employed in a vehicle, the fixed points are represented by a coupling of MR damper 10 to a vehicle body and a coupling of MR damper 10 to a wheel whereby relative velocity signal RV_S is indicative of a velocity of MR damper 10 in response to the relative motions of the vehicle and the wheel. Temperature compensation module 360 further includes a multiplier 390 for providing an operating current I_{OS3} as a product of scale factor signal SF_{S2} and operating current I_{OS1} (FIG. 2) and an adder 391 for providing operating current I_{OS2} (FIG. 2) as a summation of offset value signal OV_S and operating current I_{OS3}. In an alternative embodiment of temperature compensation module 360, adder 391 provides operating current I_{OS3} as a summation of operating current I_{OS1} and offset value signal OV_S, and multiplier 390 provides operating current I_{OS2} as a product of scale factor signal SF_{S2} and operating current I_{OS3}.

Again, MR damper 10 has a defined operating current range (e.g., 0 to 5 amperes) relating to the associated design of coil 15 (FIG. 1) and a desired range of the damping force. Accordingly, operating current signal I_{OS2}, having been computed as the sum of operating current I_{OS3} and scale factor signal OV_S is then compared against the pre-defined upper and lower operating currents of MR damper 10. If I_{OS2} is less than a lower operating limit (e.g., 0 amps), I_{OS2} is set equal to the lower operating limit. Otherwise, if I_{OS2} is greater than an upper operating limit (e.g., 5 amps), I_{OS2} is set equal to the upper operating limit. The need for these steps would be obvious to those having ordinary skill in the art.

FIG. 8A illustrates a compensation curve determination module 470 as one embodiment of compensation curve determination module 370 (FIG. 7). Compensation curve determination module 470 provides SFD 371 (FIG. 7) and OSD 372 (FIG. 7) in response to a reception of operating temperature signal OT_{S2} (or alternatively operating temperature signal OT_{S1}). In generating SFD 371 and OSD 372, compensation curve determination module 470 includes data representative of a scale factor curve 471a ("SFC 471a"), a scale factor curve 471b ("SFC 471b"), a scale factor curve 471c ("SFC 471c"), an offset curve 471a ("OSC 472a"), an offset curve 471b ("OSC 472b"), and an offset curve 471c ("OSC 472c"). The scale factors SF1-SF5 of scale factor curves 471a-471c are dissimilar due to a correlation of scale factor curves 471a-471c to three (3) different operating temperatures of MR damper 10 (e.g., -20 C, +20 C, and +60 C), respectively. The offset values OV1-OV5 of offset curves 472a-472c are dissimilar due to a correlation of offset curves 472a-472c to three (3) different operating temperatures of MR damper 10 (e.g., -20 C, +20 C, and +60 C), respectively. The relative velocities RV1-RV5 of both scale factor curves 471a-471c and offset curves 472a-472c are identical. Compensation curve determination module 470 utilizes one or more of the scale factor curves 471a-471c and offset curves 472a-472c in implementing a compensation data determination method in accordance with the present invention. FIG. 8B illustrates a flowchart 570 that is representative of the compensation data determination method.